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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,555	09/10/2003	Shinichi Kasuga	Q77311	3264
7590	07/20/2004		EXAMINER	
SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, NW Washington, DC 20037-3213			MCANULTY, TIMOTHY P	
			ART UNIT	PAPER NUMBER
			3682	

DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/658,555	KASUGA ET AL
	Examiner	Art Unit
	Timothy P McAnulty	3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## ***Office Action Summary***

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 26 May 2004.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 2 and 4-6 is/are pending in the application.  
4a) Of the above claim(s) 2,5 and 6 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 4 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 10 September 2003 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. 09/756,182.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/10/2003.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_ .

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Embodiment I - Figure 4 in the reply filed on 26 May 2004 is acknowledged.
2. Claims 2,5, and 6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected embodiment, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 26 May 2004.

### ***Claim Objections***

3. Claim 4 is objected to because of the following informalities: --plurality of-- should be inserted immediately before "balls" in line 10 of claim 4. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - a. The recitation of "the adjacent balls" in lines 5,6, and 8 of claim 4-lacks antecedent basis.
  - b. Claim 4 is indefinite regarding the structural size of the outer diameter of the separator. It is unclear how the outer diameter of the separator can be more than a maximum outer diameter.

c. It is unclear whether the applicant intends the limitation “under a condition where the balls roll while contacting with both inside and outside curved faces of the curved circulating path” as claimed in lines 10-11 of claim 4 to limit the balls to being in contact with both inside and outside curved faces or if applicant intends the limitation to define the outer diameter of the separator.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 4 as best understood is rejected under 35 U.S.C. 102(e) as being anticipated by Chiu et al.

Chiu et al. discloses in figures 1,4, and 5, a linear guide bearing apparatus comprising a curved circulating path having an inside and outside curved face; a plurality of balls; a separator interposed between adjacent balls such that an axial line of the separator is parallel to a straight line connecting the center points of adjacent balls; said separator having concave axial end surfaces at least partially contacting spherical surfaces of adjacent balls and a concave outer circumference.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamimura et al. in view of Grolmann et al.

Kamimura et al. discloses in figure 5, a linear guide bearing comprising a curved linear path having an inside and outside curved face; a plurality of balls; a separator interposed between adjacent balls such that an axial line of the separator is parallel to a straight line connecting the center points of adjacent balls; said separator having concave axial end surfaces at least partially contacting spherical surfaces of adjacent balls but does not disclose said separator having concave circumference. However, Grolmann et al. teaches in figure 1, a separator having concave axial end surfaces for contacting adjacent balls wherein the separator has a concave circumference for preventing interference with an inside bearing surface. See also lines 39-45 of column 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kamimura et al. in view of the teachings of Grolmann et al. to provide said spacer with a concave circumference so as to reduce interference between the separator and the inside curved face.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent is cited to generally show the state of the art regarding spacers for ball bearings:

US Patent No. 4,175,805 to Becker et al.

Art Unit: 3682

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McAnulty whose telephone number is 703.308.8684. The examiner can normally be reached on Monday-Friday (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tpm 



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